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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,763	12/07/2005	Satoru Shiraki	126120	7522
25944	7590	09/28/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER JAGAN, MIRELLYS	
			ART UNIT 2859	PAPER NUMBER
			MAIL DATE 09/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/559,763

Applicant(s)

SHIRAKI ET AL.

Examiner

Mirellys Jagan

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/4/07, 12/7/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 1-10 are objected to because of the following informalities:

In claim 1, it is not clear how the sensor cover is 'integrated' with the cap and the neck part since the sensor cover comprises the cap and the neck parts (see lines 8-9). Furthermore, it is not clear if the claim is positively claiming that the lead pair is drawn out of the cap part (see last line).

In claim 6, it is not clear if the 'sensing part' claimed in line 2 is referring to the holder of the temperature detecting device, or if it is referring to another part of the temperature sensor. For purposes of examination, the 'sensing part' is considered to be the holder, and the 'device protecting part' is considered to be the resin.

In claim 9, it is not clear what is means by the 'device protecting part' in view of the objection to claim 6 stated above. For purposes of examination, the claim has not been treated on the merits.

Claims 2-5, 7, 8, and 10 are objected to for being dependent on an objected base claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0058920 to Lyle in view of U.S. Patent 5,733,044 to Rose et al [hereinafter Rose].

Lyle discloses a temperature sensor for an engine system, the temperature sensor comprising:

- a bottomed tubular holder/sensing part (22) having an opening;
 - a temperature detecting device (36), contained in a bottom part of the holder, having a lead pair (37) connected thereto so as to be introduced from the opening side;
 - a filler resin part/device protecting part (polyphenylene sulfide resin 40) filling the holder so as to seal the temperature detecting device and extending to the opening; and
 - a guide part (above 22), projecting from an edge of the opening in the holder, guiding the leads constituting the lead pair;
- wherein the resin is made of one kind of resin (see figure 2).

Lyle does not disclose the sensor comprising a sensor cover comprising a cap part covering the whole opening and a neck part extending to the outside of the cap part along an outer peripheral face of the lead pair drawn out of the cap part, the sensor cover covering the guide part, and the guide part having a T-shaped form including a part extending in a direction perpendicular to an extending direction of the holder and a part extending parallel to the extending direction of the holder; and the resin being made of different resins.

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However, Rose discloses a temperature sensor comprising a temperature sensing device in a housing, wherein the housing has a plastic sensor cover comprising a cap part (261) covering the whole opening, and a neck part (16/17) extending to the outside of the cap part along an outer peripheral face of a lead pair of the sensing device when drawn out of the cap part. The sensor cover provides a means of securely attaching the housing to an automotive engine system whose temperature is being measured (see figures 1 and 2).

Therefore, referring to claim 1, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the temperature sensor of Lyle by adding a cap to the housing as taught by Rose in order to securely attach the temperature sensor to the part of the engine system whose temperature is being measured.

Referring to claim 2, by adding the cover taught by Rose to the temperature sensor of Lyle, the cover will also cover the guide part.

Referring to claim 3, the shape of the guide part claimed by applicant, i.e., T-shaped, is only considered to be obvious modifications of the shape or configuration of the guide part disclosed by Lyle as the courts have held that a change in shape or configuration without any criticality is within the level of skill in the art since the particular shape claimed is nothing more than one of numerous shapes that a person having ordinary skill in the art would have been able to provide using routine experimentation based on its suitability for the intended use of the invention. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the guide part of Lyle by making it T-shaped so as to provide a desired shape that will guide the leads and keep them separated from each other.

Referring to claim 5, the manner of forming the cover is not germane to the issue of patentability of the apparatus itself. Therefore, this limitation has not been given patentable weight.

Referring to claim 7, the particular type of material used to make the resin, i.e., different kinds of resins, is only considered to be the use of a preferred or optimum material out of a plurality of well known materials that a person having ordinary skill in the art at the time the invention was made would have been able to provide based on the intended use of applicant's apparatus, i.e., suitability for the intended use of applicant's apparatus. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the sensor disclosed by Lyle and Rose by making the resin of different kinds of resins so as to seal the sensor in the housing, and to provide the necessary thermal conductivity to the sensor to satisfy the desired accuracy of the device, as suggested by Lyle, e.g., paragraph 22, last 4 lines. See *In re Leshin*, 125 USPQ 416 (CCPA 1960), where the courts held that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyle and Rose, as applied to claims 1-3, 5-8, and 10 above, and further in view of JP 11-023379 to Morishita et al [hereinafter Morishita].

Lyle and Rose disclose a sensor having all of the limitations of claim 4, as stated above in paragraph 3, but are silent as to the manner in which the cover is engaged with the housing, and therefore, do not explicitly disclose an edge of the opening of the holder being formed with a

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substantially annular hook part projecting to the outside of the holder, wherein the hook part engages at least a part of the sensor cover.

However, Morishita discloses that a cover can be attached to a temperature sensor housing by forming a substantially annular hook part on the housing projecting to the outside of the holder for engagement with the cover. Such engagement means allow the cover to be removably attached to the housing (see figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor of Lyle and Rose by adding hooks to the housing in order to removably attach the cover, as suggested by Morishita. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor of Lyle and Rose by placing the hooks on an edge of the opening of the holder since the location of the hooks claimed by applicant is considered to be nothing more than a design choice since this location is nothing more than one of numerous locations on the housing that a person having ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to removably attach the cover to the housing as already suggested by Morishita.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references disclose a temperature sensor housing:

U.S. Patent 7,028,568 to Tokunaga et al

U.S. Patent Application Publication 2004/0264544 to Fischer et al

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U.S. Patent Application Publication 2002/0172259 to Bach
U.S. Patent Application Publication 2004/0101031 to Kotwicki.
U.S. Patent 6,045,261 to Rossum et al
U.S. Patent 4,560,973 to Grimm et al

The following references disclose a temperature sensor:


U.S. Patent 6,918,696 to Hoshisashi et al
U.S. Patent Application Publication 2004/0081225 to Janicek
U.S. Patent 5,481,240 to Fukaya et al
JP 61142430 to Shibuya et al
JP 58158531 to Iizuka

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 12PM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJ
September 25, 2007


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